

METHOD FOR REDUCING A METAL SEAM IN AN
INTERCONNECT STRUCTURE AND A DEVICE MANUFACTURED THEREBY

ABSTRACT OF THE DISCLOSURE

The present invention provides a method of manufacturing an interconnect structure. The method may include forming a nucleation layer, including a first metal, over a barrier layer and within an opening formed in a dielectric layer, forming an intermediate layer, including a second metal such as titanium nitride, over the nucleation layer and within the opening, and forming a plug portion layer, including the first metal, over the intermediate layer and within the opening. The first metal may be tungsten and the second metal may be a titanium nitride layer.